COOKIA

Journal of the Wellington Shell Club, New Zealand

VOLUME 34, NOVEMBER 2022

QUEENSLAND SHELL SHOWS

COLLECTING TREASURES WITH A SUPER DREDGE

MORE FRESHWATER TATEIDS IN NELSON

FOSSILS: FIND THEM WHERE YOU CAN

NUDIBRANCHS: OUR COLOURFUL COLLEAGUES

EFFECTVE HOME PHOTOGRAPHY OF SPECIMENS

***Alcithoe brevis*, Marwick, 1926, Nukumaruan, 2.4 - 1.2 million years old, Rangitikei River, Manawatu, October 2021. 65mm tall.**

***Front cover : Tonna cumingii* (Reeve, 1849)**

Dredged live in 40m in Hole in the Wall channel, Mercury Bay, Auckland. Claire Elliot. May 2022

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Editorial

With the retirement of Pat Lakeman and Kerry Walton from editorial responsibility, I wish to acknowledge their consistently high standards over past years. We will strive to ensure that there is no future diminishment.

As has often been pointed out, aging club membership will be a continuing influence, but in terms of magazine quality, this does not have to be a disadvantage. The club has a shared wealth of knowledge and resources which can be applied to our magazine. At committee level, it behoves us to encourage and nurture the molluscan interest of young people. Kerry Walton, right now on the cusp of a doctorate, is an outstanding example of talent that was supported, in his early years, by club members and, in return he has given much benefit to us. Kerry need not be an exception. There are others who can, and should, be nurtured, the very least for a younger median membership age and for their personal professional development.

I hope that members will continue to submit good material for *Cookia*. I also hope that members whose talents have not yet been revealed, will step up. Our collective efforts determine the product.

Pete Cresswell

Acknowledgements: *The skill of Andrew Spurgeon in providing and improving illustrative content is gratefully acknowledged, as are the talents of Roger Woods in correcting the myriad of editorial bloopers, plus undertaking the design and layout. Appreciated too, is the proofing by Jill Burnet. Much is owed to these three.*

Kaawa Creek Fossils

Eric Scott

Kaawa Creek is in the Waikaretu area, on the NW coast of the Waikato Region, just south of the Waikato River mouth.

Kaawa Creek contains one of New Zealand's richest early Pliocene Mollusca fossil deposits dating from approximately 5.0 to 3.6 million years ago (Opoitian stage). The site comprises a small band of soft grey mudstone, approximately a third of the way up the sea-cliff just south of the Kaawa Creek mouth. It is crowded with fossil shells. Access is via private property and needs to be timed with low tide. From time to time, large chunks of the sea-cliff collapse bringing down boulders containing fossil shells. The material brought down tends to get washed away fairly quickly by the tide. Each collapse seems to bring down new species not collected in earlier collapses, which is why it is such an interesting location to visit. This site has been visited many times in the past by various malacologists and students and several papers have been written identifying species that have been found there.

My interest in this site stemmed from a visit by the Auckland Geology Club on 27 February 2022. Bruce Hayward, who had earlier encouraged me in my efforts to collect and identify as many species, particularly micro-shells, as I could from somewhat similar deposits at Mangere, lead this trip, and again encouraged me to do the same. My wife, Heather and I returned to Kaawa Creek again on 26 March 2022 together with Nathan Collins, a paleontology student, and Glenys and Kelvin Stace. We took our quad bike as time between tides was of the essence and, we could bring back a lot more material. We managed to get in 3 hours of collecting resulting in 2 fish bins of matrix to sort through when we got home.

Since that trip, Heather has been diligently sifting through the matrix we collected and so far, she has managed to get through about half of it. Most of the species we found are microscopic and hence time consuming. Sifting under a microscope, one teaspoonful at a time is necessary! The matrix is quite friable and mostly disintegrates in water. The fossils however are quite fragile and break easily so there is a multitude of broken shell to sift through to find the odd whole or nearly whole specimen.

Top and above: Work station

To date we have managed to sort out and photograph approximately 230 different species of molluscs. We have also come across a lot of other micro- and macroscopic marine fossils including teeth, crab claws, bryozoans, corals, wood, barnacles, polychaete worm tubes and 2 bird bones – all very exciting!

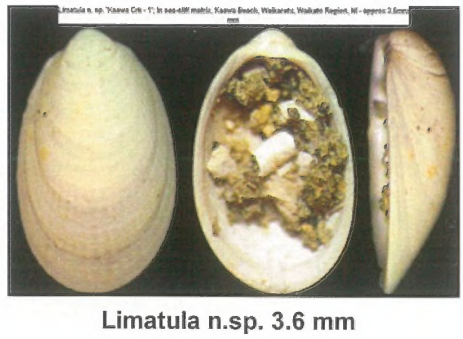
A list of all the Mollusca species found at Kaawa is being compiled, with further additions likely, as there is much material yet to be examined! This list will be peer reviewed before publication and I hope to have that ready for next year's *Cookia*.

Overall, the fauna suggests shallow marine conditions.

Lamprodomina sp.15.5 mm

Orbitestella sp.A 0.4 mm

Acanthochitona sp. 1.7 mm



Limatula n.sp. 3.6 mm

Acknowledgements

Dr. Bruce Marshall, Consultant Malacologist, at Museum of New Zealand Te Papa Tongarewa, very kindly checked and corrected the identities and I am indebted to him for his patience and knowledge of fossil molluscs. I am also indebted to Dr Alan Beu, Emeritus Scientist of GNS Science, Lower Hutt, Dr Bruce Hayward, Principal Geomarine Scientist at the University of Auckland, and Dr Seabourne Rust for their valued input.

References: Bartrum & Powell 1929, Laws 1934 (parts 1 and 2) and 1939 (part 3) and Spratt 1964 (unpublished)).

Ammonite

Clint Easton

An Ammonite from the vicinity of Moewaka Stream, Waikato

In March of this year, I was lucky enough to have a weekend off the farm in Taranaki, so, accompanied by a colleague, Hamish Hudson, I headed up to the Waikato for a day fossil hunting at Moewaka Stream.

This is a known Jurassic locality, rich in molluscs and other phyla. The age of the strata we were searching in is roughly 158 million years bp. Two species of particular interest were uncovered: *Pinna kawhiana* Marwick, 1953 and *Retroceramus galoi* (Boehm,1907). Both have been donated to institutions. The former to the Auckland War Memorial Museum and the latter, Museum of New Zealand Te Papa Tongarewa.

In the afternoon we moved on to another area at a neighbouring farm where there were similar exposures of the banks. I checked a small feeder creek where the rocks had fallen on to the creek bed from the cliff above and, while washing my hands, glanced up to spot a small exposure of an ammonite chamber sticking out of the rock.

We very carefully split the rock to expose the complete cast of a species of *Waikatoceras* **(pictured below).**

Although not unexpected from this bed, it was the first ammonite I had ever found. Definitely worth the trip and the real highlight of the day. It too, has gone to the Auckland University.

Waikatoceras

Snails

Pat Lakeman

A bit of science, a bit of history, some facts about native New Zealand snails, and some gardening advice!

Everything is related if you go back far enough, but snails are only very distant relations to humans. Snails and humans are both in the Animal Kingdom, but we are vertebrates (animals with backbones) and snails are invertebrates; and within that group they belong to the phylum Mollusca, which includes seashells and squid, octopus and slugs … Oddly, all the Mollusca that have a single, coiled shell – be they marine, freshwater or land dwelling, are loosely termed "snails".

I am a gardener though, and the snails that really get my goat (or my cabbages and lettuces if I'm not careful) are land snails, and in particular a species brought to New Zealand with early European settlers, its name being *Cornu aspersum* (Müller, 1774). (I have other names for it).

Whatever you call them, though, snails do not hear you – they do not have ears! Also, they have extremely poor eyesight, but an excellent sense of smell, which is how they find their food. And they are particularly good at seeking out calcium-rich food, because they need plenty of calcium to build their shells (made of calcium carbonate) as they grow. Many gardening friends have theories about deterring *C. aspersum* from our gardens, including covering the soil with crushed eggshells. An accompanying photo shows a pet snail – Lucy - crawling over a very sharp knife edge! Lucy was not harmed in the making of this photo. There is also evidence of snails crawling on razor blades, and alas, the snails seem untroubled by the exercise.

Snails have been around – and some have been pesky – for an exceptionally long time. Some have also been useful for a long time – as food! There is evidence that Palaeolithic humans in Spain began eating snails about 30,000 years ago - 10,000 years earlier than their Mediterranean neighbours, where snail cultivation is known to have occurred since before Roman times –

Lucy the stunt snail and a specimen of *Helix lucorum*

and as the Roman empire spread so did snails and snail recipes.

Our common brown garden snail (*C. aspersum*) was introduced to the British Isles long before the Romans, in Celtic times, from France. The Brits got another pesky garden snail - *Helix pomatia* Linnaeus, 1758, called the Roman snail – when the Romans invaded.

In the Middle Ages, European folk had another way of looking at snails - they are deemed to be neither fish nor meat, so they could be eaten during the time of Lent. As a result, most monasteries also had a snail garden, where the monks could keep the tasty snails. Snails were also food for the poor: they were free, they could be picked in nature, and they were (and still are) very nutritious and rich. Trade became another option which encouraged snail cultivation, and from that period came the idea to feed snails with a diet of special herbs to give them an especially fine taste.

Snails today are thought to be a delicacy, though peasant recipes like snail dumplings, snail sausages or snails with horseradish and cabbage (examples from 18th and 19th century Austria) today are forgotten. In France, of course, snails - escargots - never lost their role as a meal for anyone.

You might think you have a lot of snails in your garden? There are over 30,000 species of land snails in the world; I would not like to guess at how many zillions of snails that implies. And they are everywhere – there is scarcely a place on the dry surface of the planet, outside of the polar regions, where you can't find at least a few examples of land snails.

Near relatives of our garden snails are also amongst the world's most deadly creatures – not to lettuces, to humans. Freshwater snails in tropical and subtropical climates carry a deadly parasitic disease (schistosomiasis) responsible for an estimated 200,000 human deaths per year in 2000, though measures were being taken to reduce this toll. (Mosquitoes are our most deadly creatures, killing about 725,000 people annually; estimates of deaths due to snakes are in the 50,000 -100,000 range).

Snails are generally small, but they are very strong! They can lift to 10 times their own body weight in a vertical position. They have no trouble at all crawling upside down. But they move very slowly – they are rated some of the slowest creatures on earth. That leads to an amusing story – an Italian snail, *Papillifera papillaris* (Müller, 1774), is credited with the longest running invasion of Britain by an alien species. From *The Independent* August 2008 (abridged):

> *They have survived two world wars, a sex scandal, and the feet of* thousands *of visitors to the Berkshire country house of Cliveden.*
>
> *For the past 110 years, a colony of the Italian snail, P. papillaris has* managed *to crawl unnoticed from an imported stone balustrade brought from Italy in the 1890s, to claim a piece of British territory up to the terrace of the house just 27m away - a bridgehead into Britain – at the dizzy pace of about 25cm a year.*
>
> *Cliveden became renowned for a summer party in 1961 where a young call-girl called Christine Keeler first met Conservative war*

minister John Profumo. They had an affair while Keeler was seeing a Soviet spy, a scandal that led to Profumo's resignation and the fall of the Conservative government of Harold MacMillan. (Cannot blame the snails for all that!)

Experts think the snails must have hitched a ride on a marble balustrade brought to Cliveden in 1896 from the gardens of the grand Villa Borghese in Rome. The 'Cliveden snail' as they now call it, has a spindle shaped shell and is only about 1cm long - it doesn't appear to be a threat to native wildlife as it has taken 100 years to get from the balustrade to the house. (They plan to cherish them! – most invasive species would not be so lucky.)

And, an invasive species is exactly what our common garden snails are. New Zealand has about 30 species of land snails that have come from overseas. But hidden away in our forests and grasslands is a bewildering array of native land snails, which range from the microscopic to the massive. Our native NZ land snail fauna is extraordinarily diverse, and we have many different species of them – over 1400 at latest count. By global standards, rated on land area, NZ has more species of land snails than almost anywhere else on the planet, and all but a handful of them exist nowhere else. Many hundreds of these species have yet to be formally described – that is, given a name and fitted into the worldwide taxonomy of land snails. The undescribed species await attention in the scientific collections of places like our National Museum Te Papa Tongarewa, but there are very few specialists to work on them.

And sadly, like land snails world-wide, they are threatened with extinction due mainly to predators and loss of habitat. And that is a great shame, because some of our native snails are absolutely amazing.

Two groups of our native snails are known as northern giant land snails – the flax snails and the kauri snails (aka Pupurangi or *Maoristylus* and *Paryphanta* spp). Flax snails grow as big as 115mm – they are herbivores. Kauri snails grow up to about 80mm

Powelliphanta superba prouseorum
the largest *Powelliphanta* species

– they are carnivores and cannibalistic, eating earthworms, insects, insect larvae, and other snails. These giants were once widespread in Northland before human settlement. Many of them are now endangered or threatened and inhabit a more restricted area of Northland and some islands offshore. They can live for 20 years or more.

The flax and kauri snails are extraordinary, but their close relatives the *Powelliphanta* snails are even more impressive. They are found in our native forests, especially around NW Nelson and northern Westland.

This group of native carnivorous snails are amongst the largest in the world, some growing as big as a man's fist – 90mm across. The largest of them (a species named *Powelliphanta superba*) lives in Kahurangi National Park and are the sumo wrestlers of our snail world, weighing in at 90g, or the equivalent of a female tui! They suck up earthworms like spaghetti.

They are also exceptionally beautiful. Their large shells come in an array of colours and patterns, ranging from hues of red and brown to yellow and black.

Powelliphanta snails lay about 5-10 large eggs a year. Each egg is up to 12-14mm long, pearly pink and hard-shelled - just like a small bird's egg.

Like many other (but not all) snails, *Powelliphanta* spp. are prone to dehydration, and cannot survive in dry conditions. For this reason, they are more common in moist high-altitude forest than in drier forests at lower altitudes. These meat-eating giants of the forest floor are true biological oddities. They are as representative of New Zealand's unique evolutionary history as the kakapo, moa, or kiwi.

Relatives, they are also among the most threatened of New Zealand's invertebrates, ranked as being of national conservation concern, and with several species in danger of extinction. That, despite being, along with the flax and kauri snails, specifically protected by legislation, and being the subject of conservation plans since the 1980s. Predation – e.g. by rats and possums - and habitat loss are their main threats.

I will say a kind word for 1080 poison here - the periodic use of the biodegradable poison 1080 to kill possums has reversed the decline in some snail populations – one of 1080's good points! Also, management of some kauri snail colonies has had superior results - poisoning rodents, enhancement planting, fencing off colonies, and stock control. These actions have successfully allowed some species of kauri snails to recover from near extinction to colonies of some hundreds. And relocation of kauri snails has established a few new populations, so that is good news. But we are not going to see these beautiful giants of the snail world in our gardens.

We might see other species of native snails in our gardens if we look carefully. The species *Wainuia urnula* (Reeve, 1854) is not uncommon in Wellington, measuring about 10-20 millimetres across. I find them in my own garden in Ngaio. If you happen to have a bush-covered, south-facing slope with a stream nearby – look very carefully, that is an ideal spot to find them.

But I hope you never find the Giant African land snail - *Achatina achatina* (Linnaeus, 1758) in your garden – the absolute monster of land snails. While many species of land snails measure only a few millimetres across, the largest recorded specimen of *A. achatina* measured 39.3 cm from snout to tail when fully extended, with a shell length of 27.3 cm, in December 1978. It weighed exactly 900 g (2 lb). The species is native to Africa but being invasive, has spread to many countries (not including New Zealand) and has learned to eat over 500 different plants.

Many world-wide land snails are exceptionally beautiful, and some species include pink, green and yellow in their natural colours. Some of these are also highly threatened and cannot be taken across international borders without special permission.

If like me, you are a gardener as well as a shell collector, finding *C. aspersum* in your garden will not delight you. What to do about them? Don't rely on crushed eggshells! If you look back in older gardening texts for a bit of old-world wisdom – the answer will be poison. We can fight them by barring their way – it can be feasible sometimes to build a barrier, best made of metal, which snails do not like to crawl over – especially copper, which is used successfully by some commercial farmers.

Snails like humidity, and usually they are active in the evening. Do any watering in the morning, so as not to add to the attraction of your plants when snails are most likely to be out and about. Dry sawdust is said to make it more difficult for snails to get around. Salt will definitely kill them; maybe coffee grounds deter them? Or you could try electric fencing!

Encourage mates in your garden to help – blackbirds are my best helpers; thrushes are great too. It also works if you just pick snails up and get rid of them – easiest if you convince the snails to gather in one place. Give them a protected place like a wooden plank, under which they might retreat, so you can collect them easily. Or offer them an alternative food source, such as bran or oatmeal – though I baulk a bit at this, it feels like fertilising weeds. But maybe fatten them up and you could eat them! Or put out beer traps – they really do work and I like to think the snails die happy. If you would rather keep the beer for yourself, of course there are slug and snail baits, some of which are harmless to birds, pets, and kiddies. And, if you find yourself out in your garden in the dark of night, wearing a headlamp and collecting snails in a bucket so you can drive the car over them later, be grateful! Be glad that they are not Giant African land snails that you can only carry one at a time. Be glad that they are not full of deadly parasites. And be glad they are not so beautiful – pink, yellow and green – that you could not bring yourself to kill them.

***Wainui urnula* in Ngaio garden, Wellington (photo credit author)**

Sources:

https://en.wikipedia.org/wiki/Snail
https://www.snail-world.com/
https://en.wikipedia.org/wiki/Snails_as_food
https://en.wikipedia.org/wiki/Land_snail
https://www.britannica.com/animal/land-snail
https://www.who.int/news-room/fact-sheets/detail/schistosomiasis
https://en.wikipedia.org/wiki/List_of_deadliest_animals_to_humans
https://theworld.org/stories/2016-08-13/why-snails-are-one-worlds-deadliest-creatures
https://www.who.int/news-room/fact-sheets/detail/schistosomiasis
https://www.independent.co.uk/climate-change/news/discovered-the-snails-that-hid-from-history-904119.html
https://www.doc.govt.nz/nature/native-animals/invertebrates/powelliphanta-snails/#1
https://www.doc.govt.nz/nature/native-animals/invertebrates/https://www.guinnessworldrecords.com/world-records/70397-largest-snail
https://www.researchgate.net/publication/216215824_The_effectiveness_of_electrified_fencing_using_copper_electrodes_for_slug_(Airon_spp)_control_with_direct_electric_current_and_voltage

Tonnidae

Kevin Burch

Tonnidae, in New Zealand, are usually collected after beach washups after storm conditions, from fishing boats captured in fish nets, (sometimes live taken) or crabbed in crayfish pots. The last are often old, damaged shells.

Our most common species *Tonna tankervillii* (Hanley, 1860) is the shallowest living species and the first specimen I collected live on a very shallow scallop dive in 3m of water at Little Munroe Bay at the Whangarei Heads. This was in November 1977 off the yacht that we built and sailed in those days. I can still recall seeing and swimming past it: being daytime, it was almost completely buried. Like most gastropods, they hide under rocks or, similarly to volutes, bury into the substrate. I realized it looked a little different, with the dorsum only about 80- 100mm in diameter. That was all I could see. The ribs were parallel and not radiating as in a *Pecten novaezelandiae*. I stopped to pick it up and found I had to dig it out of the muddy bottom.

It was not until I swam out of the mud cloud that I realized what I had. At 218 mm, this shell is one of the largest that I have in my collection. Of interest it weighed 2.778 kg. with animal, and 425 grams empty. For collectors who have never seen or held a live specimen, the animal is huge and very heavy. *Tonna tankervillii* (a name that has taken me many years to get used to) was formally known as *Tonna cerevisina* Hedley, 1919, until reclassified in the 1980s. I collected a slightly larger specimen in May 1989, on a scuba dive at 33m at the Hen & Chicken Islands. This live one was 222.45mm. I also have taken one from deep water at the Mokohinau Islands off Whangarei.

***Tonna tankervillii* Whangarei Heads. Note the periostracum**

In June 1991, Mark, a trawlerman contact of mine gave me a call to his vessel presenting me with another Tonna. This was very different from the others and it turned out to be a gem specimen of *Tonna zonata* (Green, 1830). At that time, I named it from Baden Powell's *NZ Mollusca*, then the only comprehensive literature available to us, as *Tonna olearium* (Linnaeus, 1758). This beautiful specimen was taken in 73m, mid-way between Sail Rock and Little Barrier Island. I recall Mark telling me that he saw it coming up in the throat of the net, immediately switched off the hydraulics and retrieved the shell from the net saving it from landing on the deck with probable disastrous consequences!

***Tonna zonata*, Little Barrier 73m**

For many years, this was the only specimen that I had seen and, at 186.59 mm, is a large and rare shell. I have looked at numerous collections over the years - all without a similar specimen. But then, to my delight in June 2020, I went aboard another trawler on which I have worked for years, and found two more freshly dead specimens, with rotting animals still *in situ*. These two shells, both perfect, measured 185.52mm and 187.26mm, and were taken from 40m between Little and Great Barrier Islands. This was a very close locality to the original specimen of thirty years earlier.

Interestingly, all three specimens are almost identical in size. The second two are much darker with more colour than most shown in available books. Jenny Raven and Selwyn Bracegirdle's *New Zealand Seashells* 2020:31, illustrates a specimen which is probably Indo Pacific in origin. Many such have been included in New Zealand collections. To this date, I have still only seen one other comparable shell, recovered from the same area as my second pair, in a small Bay of Plenty collection. I would be most interested to find out if any *T. zonata* have been recorded elsewhere in Northern waters.

My diving history goes back more than 50 years – with close friend, Bill Palmer, foremost conchologist, and Poor Knights diver, being my long-time mentor. I have been fortunate to have seen some incredible sights and experienced a lot of memorable collecting. Sadly, many dive buddies have passed on or are too old to continue, although, God willing, I hope to do so for a few more years.

Note: *Proxicharonia palmeri* Powell, 1967 and *Pascula palmeri* (Powell, 1967) were both named for Bill Palmer.

***T tankervillii, T zonata* (x3)**

Townsville and Keppel Bay Shell Shows

- personal perspectives from 2004 to 2022

Kris and Roger Woods

It was during the late nineties that we remember stories from shell club members around New Zealand who had attended the Townsville and Keppel Bay shell shows in Queensland. Some, including Betty and Bob Grange from the Auckland Shell Club had been regulars for several years and while others had also made this trip, we believe Betty and Bob were likely the first New Zealanders to make regular annual visits over a long period.

The Townsville Shell Club and the Keppel Bay Shell Club have been holding annual shell shows for close to 60 years. Whether by design or coincidence the shows are held on consecutive weekends in early July. This means both shows can be visited within a 10-day period, including travel to and from New Zealand.

Our first visit to these shell shows was in 2004 when we went to Townsville, which is 1400 kilometres and 2 hours by air north of Brisbane. It has a population of about 180 000, is the capital of Northern Queensland and serves a vast agricultural hinterland along with a thriving port also used to export processed and raw minerals. Generally, the July weather is warm with daytime highs of around 23C.

The venue for the first Townsville show we attended was a bowls club located in the suburbs. Apparently, this venue had been used for several years. The space was adequate and the amenities were open for the bowls players so food and drink was readily available. With New Zealand visitors already well-known we were introduced to local club members who welcomed us. The club members have become friends since. The shell displays were laid out in familiar fashion with judging completed on the previous Friday evening. Entries were predominantly from club members but included others from Australia and New Zealand, including Kris who has become a regular competitor along with Jenny Raven and Heather Smith. The prize giving was a relaxed affair held on Saturday evening and was combined with a casual dinner at a local pub. In recent years the prize-giving is held at the show venue along with dinner delivered from a nearby takeaway.

Over the years Saturday and Sunday provides lots of time to mix and mingle with club members. We have also taken time to visit local attractions including The Strand waterfront shopping precinct, the Museum of Northern Queensland, Magnetic Island, Cape Pallarenda, the Town Common native bush and wetlands, Riverway Park and the Ross River Dam. These last three areas have become particular favourites for Kris' bird watching and photography.

In keeping with the custom established by other New Zealanders, including Doreen and Ivan Burr, we set out on Monday following the show for Dingo Beach around 3½ hours drive south of Townsville. Dingo Beach is away from the nearby Whitsundays tourist trail. Nevertheless, it is a well-known shell collecting hot spot often referred to by Townsville Shell Club members as "our beach".

During our first visits the road to Dingo Beach from the Bruce Highway was mostly shingle. There was no cell phone coverage. However, the road is now sealed and the cell phone coverage has improved. We have usually stayed at this idyllic place until Thursday venturing out each day in the sunshine on the extensive mudflats directly in front of the motel when the tide is good, looking for molluscan treasures. We had great finds over the years.

On one occasion during one of our more recent visits the evening low tide was well after sunset. Along with other regulars, Jenny and Heather, Kris ventured out onto the mudflats in the pitch-black night armed with headlights and torches. An interesting experience but with very few shells to show for it.

Off one of the points where Dingo Beach becomes Nellie Bay is Pelican Island. It's a small rocky islet and on a very good low tide it can be reached by wading through the water with exposed shallows on the sandy approaches yielding some good shell finds. On one occasion Kris was wading back with Bob Grange when he suddenly warned her to watch out for the shark! Kris was initially alarmed but what she saw in the water was not a shark but a harmless small variety of stingray. Bob's mischievous delight was apparent!

The motel style accommodation at the Dingo Beach Hotel is simple but comfortable with delights such as "Dingo burgers" on the menu in the hotel bar.

Nearby Hideaway Bay also offers good shell collecting opportunities, with vast expanses of sand and rock pools exposed at low tide.

Our last stop on the first trip was Yeppoon, which is on the coast near Rockhampton in Central Queensland. The drive south from Dingo Beach is an easy 6 hours along the Bruce Highway. The first Keppel Bay Shell show we visited, and Kris competed in, was held in a local hall off the main street of Yeppoon. Again, other New Zealanders introduced us to the local members. They made us feel welcome and at home. Many have become friends in the years since.

With a population of 8000 Yeppoon is the principal town on the Capricorn Coast. The region is renowned for its beautiful beaches and nearby Great Keppel Island is also an attraction. During our visit in 2004, we took the short boat ride to Great Keppel Island with Jenny Walton and her then young son, Kerry. A few shells were found but for those not so lucky there was a well-stocked shell shop on the

island, although the shop is no longer there.

Having made our first trip to these club shows we were hooked! We have since become frequent visitors. Since 2004 Kris has attended both shows approximately 10 times, mostly with Roger, but a few times with Jenny and Heather and occasionally also with Pat Lakeman and Graham Aamodt.

Covid restrictions meant we could not travel in 2020. In 2021 we did make it to Melbourne to visit family but last minute Covid changes meant we could not travel on to Queensland. We were very disappointed. However, we managed both shows in 2022 although for the first time did not visit Dingo Beach opting instead to make a flying visit to the Gold Coast to see a family friend.
Both the Townsville and Keppel Bay shows have grown since our first visit, but the quality and standard of exhibits has remained high. The Townsville show has moved to a bigger and better venue at the Orchid Society Hall and the Keppel Bay Shell Show has moved to a large exhibition shed at the Yeppoon Show Grounds.

Both venues are well suited with good amenities, close to shops and cafés. Like a few of the other regular New Zealanders we became club members several years ago. The shows are a big effort for the small clubs. At Townsville the New Zealand club members take turns on the door and selling raffles. At Keppel Bay local members do a great job with things under control.

We have seen Townsville city develop and grow in the 18 years since our first visit. The main roads are better, the shopping has improved. There were a few years recently when the shell show coincided with the Townsville 400, a motor race. This event meant accommodation and rental cars were scarce. However, the club has taken on suggestions to avoid this weekend. Yeppoon has also transformed with the most noticeable changes being large suburban developments in the nearby coastal communities.

During our visits to these shows we've also taken opportunities to extend our travelling experience. We have driven 3½ hours north of Townsville to Cairns twice and once further on to the Daintree Rain Forest and Cape Tribulation. After Townsville and Dingo Beach we usually finish in Yeppoon and drive the short distance to Rockhampton Airport then fly on to Brisbane and home. But a few times we've driven the 700 kilometres south from Yeppoon to Brisbane and also once further south again to Coolangatta before flying home.

We look forward to attending the Townsville and Keppel Bay shell shows on a regular basis for years to come.

Townsville Shell Show 2004

Townsville Shell Show 2022

Keppel Bay Shell Show 2022

Dingo Beach with Pelican Island in background

Some naturalised snails species in a Nelson city garden

Bert van Tiggele

Last summer, at the end of a long, dry period, I made a short survey of my garden. Lifting a small stone, I found four different land snail species, hiding together.

These snails seemed to be *Lauria cylindracea, Cochlicopa lubrica, Vallonia excentrica and Cornu aspersum.* All of them are well known, introduced and naturalised land snails in New Zealand. The finding of *Vallonia excentrica* was new for me, I had not before seen this shell in my garden but some years ago find a few empty shells on Tahunanui Beach in Nelson.

Just how long have these snails been in New Zealand and how far have they spread?

Vallonia excentrica

Vallonia excentrica Sterki, 1893 a small shell of the Family, **Valloniidae,** 2-3 mm in diameter, 1-2 mm high. A native of the Mediterranean and Western Europe. Has also spread to North America, Australia, and many other areas. Naturalised in New Zealand, where Cross reported it in 1893 as *V. pulchella*. Still, its name is not fully resolved, with DNA analyses required to resolve clarity.

Cornu aspersum (Müller, 1774) a widespread 'guest' in gardens throughout New Zealand – and persistent in mine. Family: **Helicidae**. 38 mm in diameter, 33 mm high. Naturalised and a very common snail, particularly in or near cultivated land. Native to Western Europe, Mediterranean and the Black Sea region. Possibly introduced into New Zealand around

1860. The earliest records for New Zealand were by Hutton in 1883. *C.*

Cornu aspersum

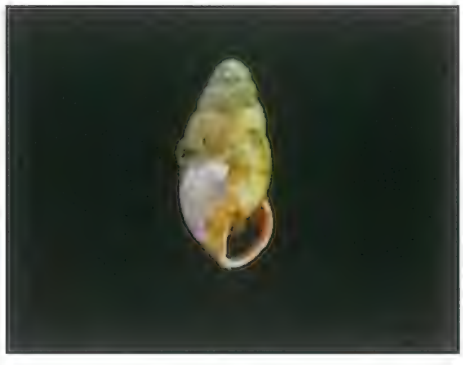
aspersum is among the most widespread (and hated by many gardeners) land snail throughout the world. It is edible and has been cultivated as such at least from Roman times, some 2000 years ago.

Lauria cylindracea (da Costa, 1778) Family: **Pupillidae**. 2 mm diameter, 5 mm high. A small reddish- brown snail, translucent, and glossy. Widespread in Europe and introduced to USA, Canada, Jamaica, South Africa and New Zealand. More common on the North Island of New Zealand and around Nelson. *L. cylindracea*

Lauria cylindracea

has not been found in areas of our native forest. This shell was collected by Whitten for the first time in the North Island in 1955. *L. cylindracea,* has lived for many years in my garden, with a still expanding population. On a rainy day more than 30 specimens of all sizes can be seen on the concrete steps around my house.

Cochlicopa lubrica (Müller, 1774) Family: **Cochlicopidae.**



Cochlicopa lubrica

Less than 2.5mm diameter, 8 mm high. This shell is widespread in Eurasia, from Iceland, Northern Europe, Siberia, Northwest Africa, North America to Mexico, South Africa, Australia, and New Zealand. *C. lubrica* was first recorded from New Zealand by Crosse in 1893. In 1955, Whitten listed it around Auckland and New Plymouth, indicating its wide distribution at that time. *C. lubrica* can now be found in the Nelson region of the South Island.

For me, it is a great pleasure to see these snails around in my garden and my findings confirm they are now really a part of our New Zealand land snail fauna.

References:

Barker, G.M. 1999. Naturalised terrestrial Stylommatophora (Mollusca: Gastropoda). Fauna of New Zealand 38, 253 pp

Crosse, H. 1893: Note préliminaire sur la faune malaco[1]logique terrestre et fluviatile de la Nouvelle-Zélande et sur ses affinités Journal de conchyliologie 41: 209- 219.

Goulstone, JF, Mayhill, PC, Parrish GR, 1993. An illustrated guide to the Land Mollusca of Te Paki ecological region, Northland, New Zealand. Tane Vol: 34.

Whitten, H.E. 1955: Introduced land molluscs of New Zealand. Conchology Section of the Auckland Museum, bulletin 11: 1-7.

Learning to Dredge for Shells

Claire Elliot

With no boating experience under our belts, my husband and I decided to buy an aluminum pontoon boat and learn to dredge for shells. Well, that's what I bought a boat for. I imagine Dean was thinking of fishing, snorkeling, and lazing in the sun on white, sandy island beaches.

Our boat - *'Limpet'*

I'd read a lot of dredging stories in old *Poirieria* magazines, and it seemed easy. In those stories they threw the dredge over, pulled it up by hand and sorted out hundreds of interesting shells.

Before we even picked up the boat, I had tried to buy a dredge. Everyone said that the Kev's Super Dredge was the best one, but Kev had stopped making them by then and I couldn't find any on Trade Me. I found a similar foil type scallop dredge that was made by an engineer, but I had to buy it new, and it was very expensive. It came with a rope that was too thick, so I also bought a 200m length of 6mm rope. At the same time, I commissioned the engineer to make a box anchor dredge using plans I drew up from photos of the Wellington Shell Club's set up.

After doing the Coast Guard Day Skippers and radio courses and taking the boat out a few times, we felt confident to try the dredges. The scallop dredge worked ok. It had a bridle system that had to be set up. The dredge was then carefully placed in the sea with constant tension on the rope. This was to maintain the foil in a position to keep the dredge on the bottom. When finished towing, the rope was pulled and quickly released so that the foil, when towed, lifted the dredge. With faster speed the dredge rose and finally caught on a buoy. This sometimes worked and we did get a few scallops and one nice *Astraea heliotropium* (Martyn, 1784) but often the bridle would release while first towing and the dredge would rise straight away. Very frustrating! I soon abandoned this dredge and used the box dredge only.

Thinking of saving our backs, I had bought a roller that slotted into a rod holder on the side of the boat. The first few tows were just out from The Cove, Great Mercury Island, but unfortunately, the dredge came up empty a lot, or with a few broken shells and one or two whole common specimens. I was thrilled when a small *Poirieria zelandica* (Quoy & Gaimard, 1833) came up, but the effort of pulling this relatively empty dredge from 40m including 4m of heavy chain, was very hard work. Even pulling in all the extra rope was hard work and rough on the hands.

Poirieria zelandica

Heading back in across the puddle I tried shallower water and towed up hill. After a while, the boat suddenly stopped in its tracks as the dredge was full. Poor Dean had to haul this up with legs braced on the sides of the boat. It took all our combined strength to lift is over the side. I took it home full and tipped it out on to a tarp and spent a happy few hours going through everything. It was 90% *Tawera spissa* halves and the rest *Cominella* sp, *Struthiolaria* sp, *Maoricolpus roseus, Zeacolpus vittatus* and a few *Murexsul octogonus*. Not quite the haul I'd read about, but the potential was there.

Dean began to dread dredge trips and we didn't try again for a while. We just needed to make it stick on the bottom and find an easier way to bring it up. We thought the dredge may be tipping as it was towed. A scallop fisherman friend suggested a chain bridle to control the angle; a trawlerman suggested small buoys on the back for stability. We did both and got some improvement. This meant it had to land with the buoys up whereas before it could land any side on the sea bed and still dredge.

I bought a pot hauler and got it fitted. This took a while to organize and as soon as the electrician had done the job, we launched from Whitianga and headed out to an area I had noticed on the sea chart as having a mud bottom. Kerry Walton had been advising me for some time prior to all of this, and he reckoned the site looked promising.

We motored for over an hour to get way out to 70m deep. The sea had a good swell running making it tricky to balance on the boat and lift the heavy dredge over the side. By now we had a system going. Dean always drove, helped with the heavy lifting, and controlled the hauler while I directed where to dredge, worked the back of the boat and controlled the rope. I strapped a dive knife to my leg just in case the rope caught me, and I got pulled overboard with the dredge. We gave it a good long tow. By now Dean could feel when the dredge was biting or not and with much hope I pulled in the excess rope while Dean drove slowly alongside.

This is not as easy as it sounds as the boat gets pushed around by the current and wind and the rope is hard to see in the water. I often felt like I was pulling the boat toward the rope. Sometimes we ran over the rope and got it caught in the prop which is very dangerous.

The new hauler worked ok at first, bringing up the dredge easily. There was a small amount of mud in there which I saved in a container. Unfortunately, the next few tows were empty, and I was feeling seasick from looking down controlling the rope; not to mention very sore hands. Also, the hauler started to overheat and stopped many times during the haul. Heading in I had a deep sense of disappointment.

Iredalula venusta

Next day, I washed the 5 litres of mud through a sieve and out popped a new and very interesting shell, it was an *Iredalula venusta* (Hutton, 1873), dead but in perfect condition. I was so excited to find this rare shell. I kept all the stuff left in the sieve and dried it out. At first it looked like nothing, but I soon discovered the fascinating world of micro shells. *Murdochella laevifoliata (Murdoch & Suter, 1906)* was one of those special micros. Measuring only 5mm in length, it is a real treasure, which we found in mud at 50m, near Mercury Is, in 2021.

Every time I found a new one, I photographed it and sent the photo to a very patient Kerry who would ID it for me and then I'd text Dean at work with the exciting news. I think his whole office knew about my finds by the end of the day. I wanted to go out again and get a lot of mud and we resolved to only go on flat, calm days to make it safer and more pleasant. The weather stayed rough for a while and just before it fined up the first Covid lockdown happened. We watched day

Murdochella laevifoliata

after day of flat sea that we couldn't go out on. Very frustrating. Eventually we got out and I filled the dredge with thick, green oozy mud. I was like the proverbial pig.

We did this kind of dredging about once a month, I always got at least one small, rare shell from that mud, including more *Iredalula venusta*, one *Admetula superstes* (Finlay, 1930), a live *Kuroshioturris angustata* (Powell, 1940) a *Hypermastus bulbulus* (Murdoch & Suter, 1906) and many rare micro shells. Sometimes I tried shallower water and did get a few nice, larger shells including a long spined *Murexsul octogonus* (Quoy & Gaimard, 1833) but the dredge filled up with so much sand it wasn't always worth the effort.

We took the boat all the way up north and dredged the Bay of Islands. Recovered 60 litres of mud from there but no interesting shells. We tried to dredge the Parengarenga Harbour, but a storm hit making it dangerous as the rope kept going near the prop and the current was raging out to the bar which had huge waves. After coming up empty a few times, we gave up.

It was obvious by this time that the pot hauler was not cutting it as a dredge winch, Dean had to physically haul with it, and still it overheated and stopped. Sometimes you could see all the precious mud washing away while the dredge was stuck a few meters down. Dean still hated dredge trips.

Kuroshioturris angustata

Hypermastus bulbulus

The dredge was still coming up empty half the time. We angle-ground off the front and extended it to make more of a sled so it wouldn't tip. This worked but now the dredge spun in the water tangling the chains. I fitted the largest swivel I could find at the fishing supply shop. This seemed to help.

Shortly before Christmas last year a commercial hydraulic winch came up on Trademe. Dean thought this was the answer, so he bought it for me. It came up from the South Island on a truck. It's a pretty big thing for a little boat but we got it fitted and had a derrick arm made up. The engineer who made it was worried that the power of the winch would tip our boat over if the load was very heavy or stuck on the bottom. He made the derrick out of aluminum so it would be like a safety valve and bend before the boat tipped. On our way back from picking the boat up we spotted a garage sale that had fishing gear. There were a couple of dredges and when we turned one over it had a sticker saying Kev's Super Dredge. We were stoked to get it for only $100.

I emailed Kevin Mead, the engineer who had made this dredge. He phoned with helpful advice and had me measure the net so he could tailor-make a finer net to insert, thereby converting the scallop dredge to a shell collecting dredge. Kev sent this with cable ties to fix it and some printed instructions on how to use the dredge properly. I also viewed his great You Tube video of the dredge in action and how to make it lift itself to the surface. In hindsight, instructions I should have followed from the start.

Now we were set to haul up anything! Or so we thought. Easterlies kept blowing so we tried the Hauraki Gulf on the western side for the first time. Launching at Amodeo Bay and motoring for an hour up the coast to the top of the peninsula to deeper water where the bottom looked promising, I put the box dredge down and filled it to the brim. We fired up the petrol-powered hydraulic power pack, put the rope over the derrick arm and around the winch, then just had to pull the lever. The motor was noisy, and the fumes hit me in the face as I sorted the rope into its container, but it only took a few minutes to come up and was powerful enough for a full dredge. The contents were mainly broken bivalves, so we moved on to a different location trying Kev's dredge for the first time. It too came up easily with the winch but was surprisingly full of mud. This oozed out as we dragged the dredge on board, coating the boat and my legs and arms as I scooped it into containers. This mud turned out to be empty of shells. We then tried shallower water. Kev's dredge filled up and caught the bottom stopping the boat fast. We thought, "no worries, we have a powerful winch. Let's just pull it up." Just as the dredge came out of the water and the full weight came on, the derrick arm folded in half. I ended up throwing all the contents back in because it was mostly sand and broken, common stuff.

What we should have done was tow the dredge back the way we had come to free it and wash the sand out first. We went home feeling very annoyed with ourselves for breaking the derrick, but it was way too weak for the intended purpose. The engineer apologetically made us a new, stainless -steel derrick and Dean had him make it much taller so the dredge could be swung into the boat. Our little 5-meter boat was starting to look like a commercial fishing vessel.

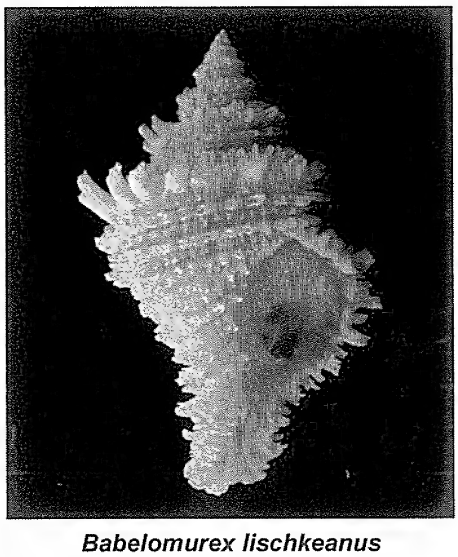
In February 2022, we towed the boat all the way to Mahia for a holiday and the weather blew up. We got out quickly on the first and best day in a two-meter swell and tried Kev's dredge - which came up with some sponge and an old bone. Went out deeper and filled the box dredge with mud. It was a scary haul, I ended up standing on the gunnel on the opposite side to the winch to counter the list the boat had from the weight and the swell. As soon as we had it up, we fled back to shore and didn't get the boat out again at Mahia. That mud had one large *Iredalula venusta* and a few bits and pieces but not much for all the effort

Back home, I was resolved to get some good dredging in, and we were blessed with an amazingly calm day on the water. After filling the box dredge with deep mud and lifting it easily with the winch we had a swim and then put the Kev's dredge down in a 35m channel with a nice current. We gave it a good long tow and this time carefully lifted it up with the winch. It was about two thirds full of material. Not too much sand and lots of cup corals. This material was shell rich, and I got some good specimens of *Xenophora neozelanica* Suter, 1908, *Murexsul octogonus* (Quoy & Gaimard, 1833), *Poirieria zelandica* (Quoy & Gaimard, 1833), Cuspidaria sp and *Zeatrohpon mortenseni caudatinus* (Finlay, 1930) *Isara carbonaria* (Swainson, 1822)

The channel became my new favorite dredging site. The second time we tried the location I found a *Coluzea spiralis* (A. Adams, 1856) and an *Isara cabonaria* (Swainson, 1822) Both were crabbed.

It suddenly felt all worthwhile. This was the best treasure hunting ever! This time we followed the instructions that Kevin Mead had written, and after pulling in all the excess rope, towed the dredge in the opposite direction to the tow and hooked on the foam filled buoy (Kevin's idea to fill the buoy with expanding foam so it does not implode with pressure). The buoy travelled down the rope as the dredge lifted and caught on the catching devise. The buoy held the full dredge just under the surface for us to motor up to and retrieve. It worked perfectly.

The third time we dredged the channel, I didn't take the box dredge and didn't use the winch;



Babelomurex lischkeanus

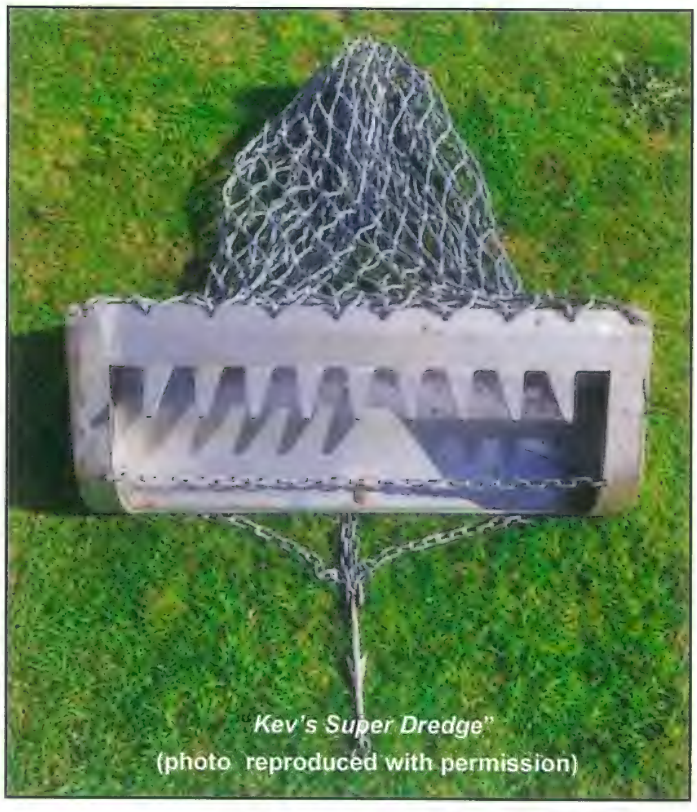
just used the Kev's dredge as it was designed to be used. I got many lovely shells including *Babelomurex lischkeanus* (Dunker, 1882), some very large *Poirieria zelandica* and a *Heliacus implexus* (Mighels, 1845)

The fourth time we dredged the channel we had taken out the power pack and winch to make room on the deck. I also debuted my new 400 m length of strong rope that Kevin had recommended. This proved to be a game changer. Pulling in the 150 metres of excess 6 mm rope was always hard work with lots of drag to counter. The new 4 mm rope felt as light as a feather and I could pull it in hand over hand quickly, meaning more time for more tows.

I found more of the same good shells and on the last tow a fine, live *Tonna cumingii* (Reeve, 1849).

I will probably never find shells with a monetary value to anywhere near match the expense of all this equipment but it's not about that. It's about the thrill of the chase for rare shells and the adventure Dean and I are having together finding them.

The *"Kev's Super Dredge"* were made by Kevin Mead, latterly of Cissy Bay, Marlborough, but now of Stoke, Nelson. His article follows.



"Kev's Super Dredge"
(photo reproduced with permission)

The dredge that did the trick

Kevin Mead

My part of this story starts when club member, Claire Elliot, contacted me regarding a scallop dredge she had recently acquired. It was one I had made and commercially marketed under the name, *"Kevs Super Dredge."* (I have to say, I no longer make it – although they do occasionally appear on Trade Me).

The main thing Claire needed was a fine mesh net to go inside the existing net, making the dredge more suitable for collecting smaller fraction bottom samples. There were a few other elements missing, which I was able to supply, including operating instructions and advice on a special rope, to enhance deeper water operations. A superb rope is "Dynice 75", of 4mm diameter with a breaking strain of 2000 kg.

Soon after dispatching the box of parts, Claire contacted me to say they had had a very successful first trip off the Coromandel Peninsula – an area I had long dreamed of dredging. She very kindly mentioned a parcel of shells was on its way to me.

The arrival of the parcel rendered me almost speechless! Claire had generously shared her first, and only tow of the day, with the result that I acquired a wonderful selection of, to me, very interesting and valuable shells.

In really fine condition, were *Maoricrypta costata, Maurea pellucida, Cylichna zealandica, Cuspidaria willetti, C. trailli, Emarginula striatula, Monodilepas diemenensis, Poirieria zelandica, Murexsul octagonus, Xymene ambiguous, Zeacolpus vittatus, Notocallista multistriata* and *Xenophora neozelandica (juvenile and adult)*.

For me, happiness is knowing that Claire and Dean, her husband, are enjoying the dredge.

Which reminds me – I will have to get an invitation to the Coromandel….

Clockwise from top left:

Rhinoclama trailli **(Hutton, 1873). 12 mm**
Xenophora neozelanica **Suter 1908. 52mm**
Zealcolpus vittatus **(Hutton, 1873). 49 mm**
Emarginula striatula **Quoy & Gaimard, 1834. 13 mm**
Murexsul octagonus **(Quoy & Gaimard, 1833). 27mm**
Antiguraleus infandus **(Webster, 1906). 6 mm**
Maurea pellucida **(Valenciennes, 1846). 18 mm**
Cuspidaria willetti **Fleming, 1948. 16 mm**

Tateidae: is "species pairing" significant?

Pete Cresswell

While collecting species of the family Tateidae, I have noticed a rather persistent and intriguing pattern: that of "species pairing".

Firstly, disregarding surficial taxa, and looking at only troglodytic (groundwater or cave-dwelling) species, there are always two species present, at the following localities:

> ***Opacuincola caeca*** Ponder 1966 + ***Opacuincola lentesferens*** Haase, 2008: Scott Creek Springs, East Takaka, Tasman.
> ***Catapyrgus spelaeus*** Climo, 1974 + ***Opacuincola cf lentesferens*** Haase, 2008: Green Bower Cave, East Takaka.
> ***Catapyrgus matapango*** Haase, 2008 + ***Opacuincola delira*** Haase, 2008: Crazy Paving Cave, Oparara, Buller.
> ***Opacuincola favus*** Haase, 2008 + ***Catapyrgus matapango*** Haase, 2008: Honeycomb Cave, Oparara Basin.
> ***Opacuincola ngatapuna*** Haase, 2008 + ***Catapyrgus spelaeus*** Climo, 1974: Cascade Cave, Patarau, Nelson.

In each of the above situations *Potamopyrgus antipodarum* (Gray, 1843) is not recorded – which is not surprising as it is an obligate surface dweller. In several surface situations there are also examples of apparent species pairings that seem worth noting:

> ***Hadopyrgus anops*** Climo, 2008 + ***"Kuschelita" sp***.[1]; near Pelorous Bridge, Nelson.
> ***Hadopyrgus anops*** Climo, 2008 + ***Catapyrgus fraterculus*** Haase 2008: Withells Track, head of Kaiteriteri Inlet, Nelson.
> ***Opacuincola lisannea*** Verhaegen & Haase, 2021 + ***Catapyrgus jami*** Verhaegen & Haase, 2021; Kaituna Track, SW of Collingwood, Nelson.
> ***Halopyrgus pagodulus*** Haase, 2008 + ***Halopyrgus pupoides*** (Hutton, 1882); Medlands, Great Barrier Island, Auckland.
> ***Obtusopyrgus alpinus*** Haase, 2008 + ***"Kuschelita" sp*** (2); Clarence Valley Road, Hanmer District, Canterbury.

As far as I am aware, despite a lot of recent searching at these 10 localities, *P. antipodarum* has not been collected. It may, prefer slower flow, and we might be seeing some density-dependent (i.e., high-density blocking) effects and niche realization preventing establishment of *P. antipodarum* at these sites.

Hadopyrgus anops **(L)** ***Catapyugus fraterculus*** **(R)**

Meridiopyrgus muaupoko **(L)** ***M. pupiformis*** **(R)**

Obtusopyrgus alpinus **(L). 'Kuschelita'sp**

With that said, I acknowledge that future and more intense investigating at those localities may show *P. antipodarum* to be present…

A third situation has recently occurred, in which many (>30) samples from surface waters (waterfall moss, roadside ditches and small trickles) along the Cobb Road, in Golden Bay, Nelson, have been made without *P. antipodarum* being found. In many of these habitats *Opacuincola gretathunbergae* Verhaegen & Haase, 2021 + *"Kuschelita"* sp. were found to occur sympatrically; although very recently, Andrew Spurgeon and I believe we may have found three or four additional undescribed species of tateid in the Cobb Valley, which are, in some localities, syntopic with *O. gretathunbergae* or *Kuschelita* sp. A more systematic study is required before any further hypotheses could be advanced. Opportunities beckon!

In each of the above 11 situations, no more than two tateids have been recorded occurring sympatrically; and these 11 detailed examples do not represent the exception - indeed, I can think of no surface water sample where more than two species co-occur. In many large and complex stygobiont cave systems, particularly in Patarau, West Nelson and Oparara, Buller, between four and seven species do occur. However, in these systems, collections of dead snails have only been made at or near where water is exiting the caves and it remains to be established if more than two species co-occur syntopically within these extensive cave networks.

Do these represent anything more significant than chance?

Acknowledgements:

I thank Kerry Walton, PhD candidate, Department of Zoology, University of Otago, for his critical review and for his valuable suggestions, which greatly improved the content. I also thank Andrew Spurgeon for his extraordinary skills in photographing these (and other) tiny members of the Tateidae.

[1] The application of genus *Kuschelita* in this instance is tentative and based on shell characters alone. For confident generic assignment, anatomical and DNA analyses are required (Dr Bruce Marshall *pers.comm.*).

New Zealand Seashells 2020

Jenny Raven and Selwyn Bracegirdle, Wellington Shell Club Members

A must for New Zealand shell collectors, this soft covered book is an update on their earlier published book with 200 additional photos and text. In total it comprises 92 glossy pages with colour photos, updated text and names identifying over 1000 New Zealand marine shell species. The cost for New Zealand shell club members is NZ$60 plus postage and packing. There are limited numbers so if you would like a copy, contact Jenny on ravenjay@xtra.co.nz or +64 21 132 7786.

Notes on New Zealand Collected Species

Ranularia dunkeri

(Lischke, 1868)

50-60m (Dredged), Outer Hauraki Gulf, 2021. 89mm

This is a new New Zealand mainland record and the only known specimen – verified by Dr Bruce Marshall, who retained the body for the Museum of New Zealand Te Papa Tongarewa

Only previous New Zealand records are of four beach worn and broken specimens found early last century on Raoul Island.

Claire Elliot

Amalda depressa

(GB Sowerby II, 1859)

South side Giants Nose, Taylor's Mistake, Christchurch. Found hermit crabbed on reef surrounded by fine sand at low tide.

Scale bar is 10 mm. 20 December 2020. New southernmost record for this species. Specimens sent to Te Papa as voucher.

Saryu Mae

Ellatrivia merces

(Iredale, 1924)

Phoenix Reef, Tawharanui Marine Reserve, Rodney, Auckland. Low intertidal, under a rock on the reef. Shell length approx. 10 mm.

It is very rare for this species to be observed intertidally.
16 July 2022.

Saryu Mae

Leuconopsis obsoleta

(Hutton, 1878) *in situ*

Green Bay, Northern Manukau Harbour, West Auckland. High intertidal, under a moist sandy mudstone. Shell length 0.5 - 1 mm. These small juveniles are rarely found compared to adults which grows up to approx. 2 - 3 mm. 3 January 2022.

Saryu Mae

Suterilla neozelanica

(Murdoch, 1899)

Whau River, New Lynn, West Auckland. Brackish, very high intertidal, under a rock on muddy soil. Shell height approximately 2 mm. 18 March 2022.

Saryu Mae

Caecum sp.

in situ

Omaha Cove, Rodney, Auckland. Mid high intertidal. Under a rock half buried in gravel. Shell length approx. 2 - 2.5 mm. Alive, operculum is visible. 20 February 2022.

Saryu Mae

Serrata fasciata

(GB Sowerby II, 1846)

Phoenix Reef, Tawharanui Marine Reserve, Rodney, Auckland. Low intertidal, under a rock on the reef. Shell length approximately 6 mm. 16 July 2022.

Saryu Mae

Coryphellina albomarginata

(MC Miller, 1971)

Phoenix Reef, Tawharanui Marine Reserve, Rodney, Auckland. Low intertidal, under a rock on the reef. Body length approximately 2 mm. Very small, probably juvenile. 16 July 2022.

Saryu Mae

Macrozafra sp.

A very nice coloured specimen found in shell sand at Tapeka Point, Russell during winter 2021. Main features are: it is solid, nodose, dentate and strongly coloured.

Jenny Raven

Did you know?

Jenny Raven

When you are checking the name of a New Zealand shell on the World Register of Marine Species (WoRMS)[1] website, if you scroll down to the heading "Original Description" you will see details of the original publication naming the shell; it will also indicate if the publication can be viewed online. Thanks to Bruce Marshall's work at Te Papa most publications involving New Zealand shells have been linked to the WoRMs website and clicking on an underlined link in this heading should take you to the site storing the publication.

Many of the publications have been saved in the Biodiversity Heritage Library in the USA. When this is the case take a note of the page and any plate numbers given for the shell before you click on the underlined link. You will be taken to the first page of the publication on the library website where you can use the "Pages" menu on the left-hand side of the screen to access the page(s) containing the description /pictures of the shell. The "Search Inside" menu is useful for accessing additional information and the "Fit to Height" menu will bring up a zoom button to increase the size of the text/drawings if required.

If you want a copy of a page or pages; click "Download contents" at the top right-hand side of the screen followed by "Select pages to download;" highlight the pages you want, then click "Generate" where you will be asked for your email address and a title for your pages; click "Finish" and close the library webpage. Open your emails and you will have been sent a free pdf of the pages you wanted at A4 size which you can save and print. This is a wonderful identification resource particularly when you can view some very old publications and drawings of the original shell from the comfort of your home.

[1] www.marinespecies.org

Interesting Snails From an East Takaka Cave

Andrew Spurgeon

The number of known NZ species of freshwater tateids has expanded dramatically in the last 50 years. The then molluscan 'bible', '*New Zealand Mollusca: Marine, Land and Freshwater Shells'* (Powell 1979) listed 16 species, while current checklists total around 69 published species, with many undescribed waiting to be worked on.

Most live freshwater species are typically found in lakes, streams, waterfalls, and seepages – often living in waterlogged moss or decaying wet leaves. Our most prolific species, *Potamopyrgus antipodarum* (Gray, 1843), can be found in every conceivable aquatic niche: on and under stones, logs, and leaves throughout the country.

A smaller but expanding list of freshwater snails are restricted to subterranean environments. Compared to terrestrial species, much less is known about their biology, habitats, and ecology - often due to inaccessibility, and a lack of live or fresh samples. Some species are recorded from more than 2 km into cave systems in the Takaka/Tasman area. Many of these caves are still being mapped and explored, so that distances from the surface are likely to be considerably greater.

Without the hazards of caving, in often very difficult environments, the only way to collect many of these species is by locating the cave outflow and sampling material that has washed out, carried by the cave stream. Shells are usually old, bleached and broken, and have probably travelled considerably before emerging in sand. Occasionally, after very heavy rain, you might be lucky to find something fresh.

This has happened a few times this winter with some very heavy storms in the Marlborough/Tasman region. So, a rushed trip over the Takaka Hill to East Takaka Road, was organised soon after a period of particularly heavy rain. At Cottage Cave an exceptional water volume had swept large quantities of sand from underground. Even while standing, snails were clearly visible in the discharged material! This was tateid collecting at its very best!

Bags of snail-rich sand were taken for examination at home.

The predominant species recovered was *Opacuincola caeca* Ponder, 1966, along with the slightly taller one *O. ignorata* Haase, 2008. From there it gets a bit more difficult. The other species are either undescribed, show hitherto unrecognised structural variation or sexual dimorphism, or may be species that haven't been previously recorded from that area. Clearly we have only scratched the surface, but in these exciting times of DNA research, a lot more sampling is needed to provide material, so we can begin to understand the relationships between these subterranean populations of snails.

The associated photos show assemblages of snails recovered from Cottage Cave and indicate the seeming diversity. Sizes range from about 1.5 - 3.5mm in height.

Cottage Cave- raw material

Primary literature on NZ Tateidae

Climo, F.M. 1974: Description and affinities of the subterranean molluscan fauna of New Zealand, New Zealand Journal of Zoology, 1(3): 247-284

Climo, F.M. 1977: Notes on the New Zealand hydrobiid fauna (Mollusca: Gastropoda: Hydrobiidae), Journal of the Royal Society of New Zealand, 7(1): 67-77

Powell, A.W.B. 1979. New Zealand Mollusca: Marine, Land and Freshwater Shells. *Collins,* Auckland

Haase, M 2008. The radiation of hydrobiid gastropods in New Zealand: a revision including the description of new species based on morphological and mtDNA sequence information. *Systematics and Biodiversity* 6 (1): 99-159

Verhaegen G & Haase M, 2021. All-inclusive descriptions of new freshwater snail taxa of the hyperdiverse family Tateidae (Gastropoda, Caenogastropoda) from the South Island of New Zealand. *European Journal of Taxonomy* 731: 71-96

Malluvium calcareum (Suter, 1909)

Kevin Burch

A few months ago, I received this *Fusitriton laudandus* (Finlay 1926) amongst a lot of scampi trawled specimens from 350 - 400 metres off Napier.

Malluvium calcareum

The Fusitriton was an old dead shell, with the usual hermit crab inside, but to my delight, was covered in the largest colony of *Malluvium calcareum* (Suter, 1909) that I have ever seen.

Malluvium is not uncommon at this depth attached to dead shells and sometimes on live *Penion cuvieranus, Ranella olearium* and deep-water volute species.

This example and the position of the Malluvium suggest a symbiotic relationship between the hermit crab and the Malluvium which may live on the leftovers from the crab.

I was fortunate to receive the shells frozen in boxes, the Malluvium still *in situ,* and not damaged or dislodged. As seen in the photograph, Malluvium manufacture a basal ramp to provide a flat living platform.

I have observed that this platform is only evident in very mature specimens, with smaller specimens well able to adhere directly to the surface of a host shell.

I have collected many dozens in recent years, with those ones by far the largest examples I have. The specimen nearest the aperture measures 23.25 x 14.65mm. I have glued the larger ones back in place. The 31 smaller

The basal platform

A colony of specimens

specimens can fit into a specimen tube.

I have written this article for the information of other collectors who have never been fortunate enough to see where *Malluvium* live or being lucky enough to have one in their collections. I have always had an interest in the niche habitats of a lot of our lesser-known species and in shallower water have observed many oddities over years of diving and collecting.

Tateidae on the move

Pete Cresswell

- the range expansions of *Hadopyrgus anops* Haase and *Catapyrgus fraterculus* Haase and *Catapyrgus fraterculus* Haase just keep growing, while "*Kuschelita*" Climo, 1974[1] tags along.

Kathy Carson reported finding *Hadopyrgus anops* Haase, 2008, in moss at a waterfall not far from the Pelorus Bridge, Marlborough, *Cookia* Vol 32 (2020) p. 6. This was a significant range and habitat expansion – particularly as the species had hitherto been recorded only as phreatic in "groundwater in and around Nelson." (Climo, 1974).

Further sampling has established this species to be more widespread in the Nelson province and confirmed it as a dweller of highly aerated surface water/moss habitat.

In September 2021 Andrew Spurgeon collected it from an artificial waterfall (*ca* 0.7m high) in a very small stream near Withells Track, at the head of Kaiteriteri Inlet, Nelson. In October the same year, my wife, Dee, collected it from moss in an un-named feeder streamlet crossing Hacket Track, between Aniseed Valley and Whispering Falls, Nelson.

As is often the way, the Withells Track locality was the home of a companion tateid species: *Catapyrgus fraterculus* Haase, 2008. Recorded by Haase only from cave streams around Patarau and Upper Takaka (Haase, 2008: 157), the new locality is not only geographically distant from previous records but, more importantly, establishes it as a surface dweller: a habitat not previously recorded.

These localities really expand the geographic boundaries and further sampling is likely to extend them even more.

Of some surprise is the finding by me, Andrew, and Bert van Tiggele, of "*Kuschelita*" at the same Pelorus waterfall at a time of exceptionally low flow. Significantly, only dead empty shells have, so far, been recovered from moss – suggesting that the real habitat may be above the fall: possibly underground. That these specimens have been found only in low flow conditions may also indicate that they would be dead and scoured from the moss in higher flows.

Kuschelita mica Climo, 1974, is recorded from groundwater of Waiiti and Matai Rivers- with specimens recovered from two wells in Nelson City and the nearby Waimea Plains. (Haase, 2008: 135). Specimens of that, or, more likely, an undescribed species have been recovered from Cottage Cave, East Takaka, Nelson (Cresswell 2020:5) The material from Pelorous does suggest the species from East Takaka to be other than *K. mica*.

As indicated in earlier *Cookia* publications, the expansion of species ranges and, indeed, the finding of additional undescribed material, awaits members' attention.

Acknowledgements:

I thank Dr Bruce Marshall, Honorary Research Associate at Museum of New Zealand Te Papa Tongarewa for kindly examining and identifying specimens. Thanks also to Andrew Spurgeon for his map.

References:

Carson, Kathy 2020. An unexpected find near Pelorus Bridge, Marlborough. *Cookia* Vol 32 6.

Climo, Frank M 1974. Description and affinities of the subterranean molluscan fauna of New Zealand. *New Zealand Journal of Zoology* 1 (3) 247-284

Cresswell, Pete 2020. New Zealand Tateidae. *Cookia* Vol 32 4-7.

Haase, M 2008. The radiation of hydrobiid gastropods in New Zealand: a revision including the description of new species based on morphological and mtDNA sequence information. *Systematics and Biodiversity* 6 (1): 99-159.

[1] Herein, the genus Kuschelita is only based on general shell characters. Anatomical and DNA analyses are necessary for accurate taxonomic placement (Dr Bruce Marshall *pers.comm.*).

Land Snails in Waitomo Caves Area

Saryu Mae

- and a note on the range extension of the introduced snail *Hygromia cinctella* (Draparnaud, 1801).

On 16-17th of this April, I visited the Waitomo Caves area with my family. Fortunately, the trip was favoured with very fine weather and the condition was perfect for looking for terrestrial invertebrates.

First, I visited the Waitomo glow worm cave and noticed a few fragments of shell fossils in the Oligocene limestone, which I assumed were *Flemingostrea wollastoni* (Finlay, 1927). Unfortunately, those fossils were far up near the roof in the dark, and I could not see enough detail to confirm which species they were.

Right after finishing glowworm watching, I was surprised to spot an empty shell of what was likely to be *Schizoglossa novoseelandica* (Pfeiffer, 1862), sitting on mosses next to the cave mouth. This was my first encounter with *Schizoglossa.* Although I thoroughly searched nearby plant litter, without finding any others (alive or dead), it was still quite a pleasure to find this prized endemic species. Since all its periostracum was eroded, it is likely to have moved *post-mortem* from where it was originally living.

At the car park by the cave, there was an exposure of limestone which provided a perfect habitat for *Rhytida greenwoodi greenwoodi* (Gray, 1850). I counted approximately 50 empty shells (most were broken) just beneath the exposure and I managed to find several live individuals hidden under vegetation. An interesting find were eggs with thick calcareous shells, laid in leaf litter. At first glance, they looked like those of the Delicate Garden Skink, however they turned out to be eggs of *R. greenwoodi.* I gently put the leaf litter back on them.

Notably, on a plant on another side of the limestone exposure, I collected one living individual of *Hygromia cinctella* (Draparnaud, 1801), plus an empty shell from just beneath the exposure. This is an introduced species from the Mediterranean. In New Zealand, it was first recorded in Wellington, in 2015, by Kerry Walton (2017), and since 2020, they have been recorded

Rhytida greenwoodi eggs

Hygromia cinctella *in situ*

Liarea hochstetteri carinella

Suteria cf. ide

from many localities within Auckland, including by me.

After having dinner and suspiciously (unintentionally!) taking photos of nocturnal insects such as Leptophlebiidae and Hydropsychidae species resting on glass walls of shops in Otorohanga, I split up from my family and, with a headlamp, started exploring the bush back in Waitomo from 10:30 pm.

The biodiversity seen along the track was incredible, especially land snails. Unfortunately, I could not collect specimens or soil samples at the bush since the track was within the scenic reserve. However, I enjoyed observing the small land snails on soil including, what I took to be: *Delos* sp., *Suteria ide* (Gray, 1850), *Therasiella* sp., *Flammulina chiron* (Gray, 1850), Charopidae spp., *Laoma leimonias* (Gray, 1850), *Laoma mariae* (Gray, 1843), *Phrixgnathus* sp., Punctidae spp., *Georissa purchasi* (Pfeiffer, 1861), *Suteria ide* (Gray 1850) and *Liarea hochstetteri carinella* (Pfeiffer, 1861).

All the species I noted above were found on or in plant litter within an area of a square metre. I noted the thickness of their shells, which most likely was attributed to calcium ions in soil dissolved from the nearby limestone. Compared to other native land snail populations, I had seen in the Waitakere Ranges and Albany, I felt that empty shells of the native snails at the bush in Waitomo I explored, were remaining in much better condition despite the presence of many decomposers such as other snails and springtails. After finding those native snails, I also enjoyed photographing non-molluscan native species, including various millipedes, centipedes, insects, arachnids, mosses, leafy liverworts, ferns, fungi etcetera. An uncommon pill millipede, *Procyliosoma* sp. was seen crawling on moist soil, which made my day.

On my way back to the guest house I found another two living individuals of *H. cinctella* on ferns at the roadside, which confirmed that the species was unfortunately already established in the Waitomo Caves area.

References:

Efford, M. 1998. Distribution and status of native carnivorous land snails in the genera Wainuia and Rhytida. Science for Conservation No. 101, Department of Conservation, Wellington.

Walton, Kerry. (2016). Hygromia cinctella (Draparnaud, 1801) (Mollusca: Gastropoda: Hygromiidae): a new adventive land snail for New Zealand. New Zealand Journal of Zoology. 44. 1-5.

Once in a lifetime fossil find in Mangere

Javier Couper

In the South Auckland suburb of Mangere, a fossiliferous layer was found 12-40m below the surface under the Mangere Wastewater Treatment Plant, by the Mangere Lagoon, at approximately 36° 57'38.09"S, 174°46'38.62"E.

The section between 33-38m depth was particularly fossiliferous and was extracted. Over 2,500 m^3 was excavated as part of the $1b Central Interceptor Project linking Grey Lynn to the Mangere Wastewater Treatment Plant.

Where the excitement took place

This shell bed is a part of the Kaawa Formation and is of Pliocene age, dating from between three and four million years ago.

After recognizing the implications of this find, Watercare, who runs the Central Interceptor Project, placed much of the fossiliferous material on a site where scientists from the Auckland Museum could examine it.

The deposit contained many species that would have occurred in rocky shores, sandy shores, in harbour channels and, remarkably, even some land snails which included the earliest records of a bothriembryontid from NZ: the newly described *Maoristylus pliocenicus* Brook & Hayward, 2022 and *Archaeostylus manukauensis* Brook & Hayward, 2022. It is thought that the fossil sediment was from a harbour channel and that many shells from the surrounding habitats have made their way down to the channel to eventually be fossilized.

Last time a fossil formation this significant was found in Auckland was in the 1940's when a well in a brewery in Otahuhu produced a large number of fossils from the same formation, sharing many species with those from Mangere.

A shell hunt was organized for the morning of Sunday December 12, 2021, at 70 Greenwood Rd Mangere, by palaeontologist, **Nathan Collins.**

There, quite a few members of the public, the Auckland Geology Club and even a few shell collectors got to have a go at finding fossils in the huge piles of fossil rubble.

On arrival I was immediately in awe on looking at all the huge piles strewn across the property. It was a dreary day, constantly threatening to rain on us and make the trip much less enjoyable.

A machine had previously been used to sort the rubble into large piles of similar sized pieces. In the back there were some small hills of fossiliferous sand. Some of these piles were up to 5m in height. I was amazed and ended up spending a few minutes just exploring the piles, not looking for anything in particular. Initially I found very few species, the most common being *Xymenella* sp. and some Turritellidae, but I also found an *Austromitra* sp. and Batillariidae sp. All were under 10 mm).

Emerging from the fossil sand dunes with a small handful of fossils, I went along and joined Nathan, who was showing others what looked like a cone shell that he recovered from the rubble of a smaller pile consisting of larger fragments. I asked hopefully if he intended to give the shell away or keep it for the museum: alas the museum was its destination. I was then asked that if I found anything particularly interesting and unusual, Nathan would like to take it for the Museum collections. I had no problem with this and was just happy to be allowed the opportunity to explore these small hills containing so many fossils.

I later spent time exploring the shell piles with larger fragments frequently picking up larger bivalves and gastropods, including a few *Fissidentalium* species. I periodically returned to Nathan to show him the fossils I had; whereupon he provided scientific names of the species and a little bit of information on where they were likely to have lived. Nothing I had at that point was of particular interest, so I kept all my finds.

It was great fun getting a chance to collect fossils of the species that lived here in Auckland around 3.5 Ma and I am very grateful for the once-in-a-lifetime opportunity to be a part of a find like this.

I thank Nathan Collins and the Auckland Museum for my inclusion.

***Lamprodomina neozelanica* (Hutton, 1885)**

The list of the species I personally collected:

Gastropoda:
Alcithoe arabica (Gmelin, 1791)
Amalda sp.
Austromitra sp.
Austrosassia sp.
Batillariidae sp.
Cellana sp
Cominella dingleyi Marwick, 1948
Diloma sp.
Janthina typica (Bronn, 1861)
Maoricrypta profunda (Hutton, 1873)
Neothais sp .
Pelicaria pseudovermis (Bartrum & Powell, 1928)
Penion sp.
Polinices waipipiensis (Marwick, 1924)
Scutellastra sp.
Sigapatella sp.
Struthiolaria arthritica Bartrum & Powell, 1928
Turbinidae sp.
Turritellidae sp.
Xymenella sp.
Zelandiella propenodosa (Bartrum, 1919)

Bivalvia:
Atamarcia healyi (Marwick, 1948)
Austrovenus tamakiensis (Marwick, 1948)
Barbatia novaezealandiae (E. A. Smith, 1915)
Bassina katherinae Marwick, 1948
Crassostrea ingens (Zittel, 1864)
Dosinia powelli Marwick, 1948
Eumarcia kaawaensis Marwick, 1927
Glycymerita manaiaensis (Marwick, 1923)
Irus sp.
Lima sp.
Mactridae sp.
Maoricardium spatiosum (Hutton, 1873)
Paphies sp.
Phialopecten marwicki (Beu, 1970)
Purpurocardia sp.
Tawera duobrunnea Marwick, 1948
Tellinidae sp.
Zemysia

Other molluscs:
Fissidentalium sp. P. Fischer, 1885

Non mollusc:
Brachyura sp.
Carcharodon carcharias (Linneaus, 1758)

***Carcharodon carcharias* (Linneaus, 1758)/Great White Shark tooth**

Storing our shell collections

Jenny Raven

I recently had occasion to assist with the packing of two shell collections. In both cases the shells were well labelled and kept in drawers with their labels. However, one was very easy to pack and the other, very time consuming.

In the easy situation the shells with their labels were held in individual snap-shut, clear, plastic bags or small containers or tubes with lids or caps of plastic or cotton wool. Being individually contained they were quickly and easily moved into larger bags or boxes for transporting without fear of the shell or labels getting lost or mixed up.

The time-consuming situation arose for the collection where the shells and their labels were displayed in open topped containers without lids or caps. Without a lid, each shell and its label had to be lifted out of the container and placed in a separate snap-lock bag for packing. Further complications arose with the many micro shells contained in the collection, where the gelatin capsule containing the shell and its label were separately held in an open topped container instead of each capsule and its label being inside a sealed tube. Again, both label and capsule had to be lifted out of the container and placed in a small snap-lock bag.

Whilst it may have been possible to simply stack the drawers on top of each other for transporting, this can be risky and is not always possible – particularly if the collection must be sent on to others. We never know when our precious collection may need to be packed and it is worth considering the problems you and others may face in doing so. I now store mine within closed containers and tubes where possible.

***

Dear Mrs Griffiths — Powell requests the biggest and the best - Kelvin Tarlton

Selwyn Bracegirdle

What follows is the text of the content of two letters by Kelvin Tarlton to Mrs Griffiths in 1965. They will speak for themselves, but they concern the matter of a cowrie known today as *Naria cernica* (G.B. Sowerby II, 1870). This correspondence gives a very important insight into the early discoveries of this species in New Zealand waters.

C/- Automatic Telephone Exchange
P.O. Whangarei
22-3-65
Dear Mrs Griffi[th]s
We went out to the Poor Knights Islands yesterday and I made a special effort to find another cowrie. I found one at North End of Tawhiti Rahi 185ft below the surface at the foot of an underwater cliff. There have been several people interested in purchasing a specimen, however Jeff is particularly interested that we offer one to you first.
I am enclosing the one I found yesterday [21 March 1965] and I would like 7 pound 10 shillings for it. If you are interested, you can contact me at the above address.
Yours faithfully
Kelvin Tarlton
P.S. This is the biggest specimen found yet.

A month later a second letter was sent:

C/- Automatic Telephone Exchange
P.O. Whangarei
20-4-65
Dear Mrs Griffiths
Thank you for your letter. The cowrie is a Rauitroni Tomlinii (cypraea) and is now proved to be identical with the species first described by AWB Powell from a specimen trawled by him in 1957 off the Kermadec Islands. This is the seventh specimen as far as I know. The first was Dr Powell's from the Kermadecs in 1957. The 2nd & 3rd the one's Bill Palmer and I found January 1965 as described in 'Dive' February [1965]. Bill and I have since found three more and Wade Doak, Editor of 'Dive' has found one.
All these have been dead specimens. No one has found a live one yet though we have spent a lot of time looking. The one you have is the largest yet. Most of the rest have been about half that size.
Dr Powell leaves for 5 months in USA, UK and the continent next month and has requested two of the biggest and best to take with him. So if you are not intending to keep the specimen I will let him have that one and the other from the Whangarei Museum. Thanking you for your interest.
P.T.O.
Yours faithfully
Kelvin Tarlton

P.S. The photo in 'Dive' is more than twice true size.
P.P.S. All the specimens we have found so far have come from 100ft and deeper and seem to be at the foot of underwater cliffs. They probably live amongst the sponges and corals on the cliff faces and fall off when they die.

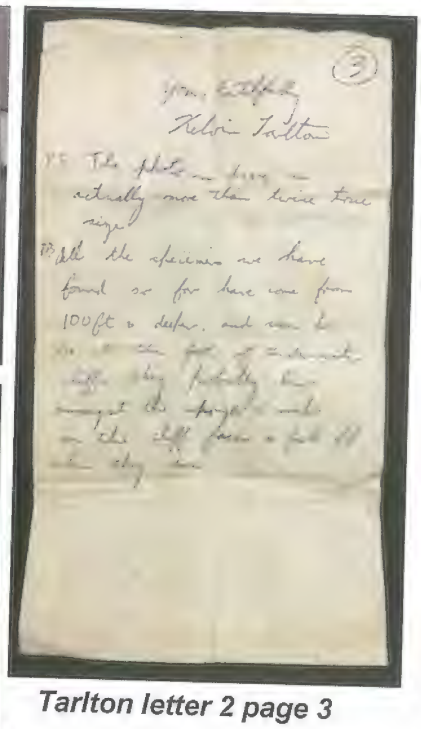
It is unknown if the specimen went with Dr Powell on his trip overseas.

The associated three photos are of the actual specimen referred to in in the correspondence.

Acknowledgement: Specimen from the collection of Dr Mike Hart.

Cypraea cernica
At 185 feet at foot of underwater cliff.
Northern end of Tawhiti Rahi
Poor Knights
Col. Kelly Tarlton – April, 1965

***Naria cernica* with label**



Tarlton letter 2 page 3

Well Stacked

Fred Keil

It seems to me that being a collector carries with it the need to bring order into your world. A collector, whether it be of shells, stamps, or ball-point pens, will want to categorize, sort, and display his or her collection.

Some, like myself, will have a spreadsheet that will accept photographs, so instead of rattling through drawers, you can quickly find and show an image of the shell. It took me a while to locate a spreadsheet, but eventually I found WPS KINGSOFT, to be compatible with Excel and free to download.

If you take photos only of larger shells, the camera doesn't need to be anything flash, but it does need to have the ability to transfer photos to your computer. If you want to take shots of smaller shells, you will need a camera that will accept different lenses. Mine is a Canon EOS 1200 D.

To take good photos of the smaller shells, you do need some additional equipment. For a few dollars, an adapter ring can be bought. This is fitted to the camera body. The lens is turned around (180^0) and the ring attached. Looks weird, but it works and gives greater magnification.

Photo before and after camera lens reversed

Spend a little more and buy a set of extension rings. They come in a set of three and fit between the camera body and the lens. Can be used singly or a mixture of the three.

ATTACHMENT RING

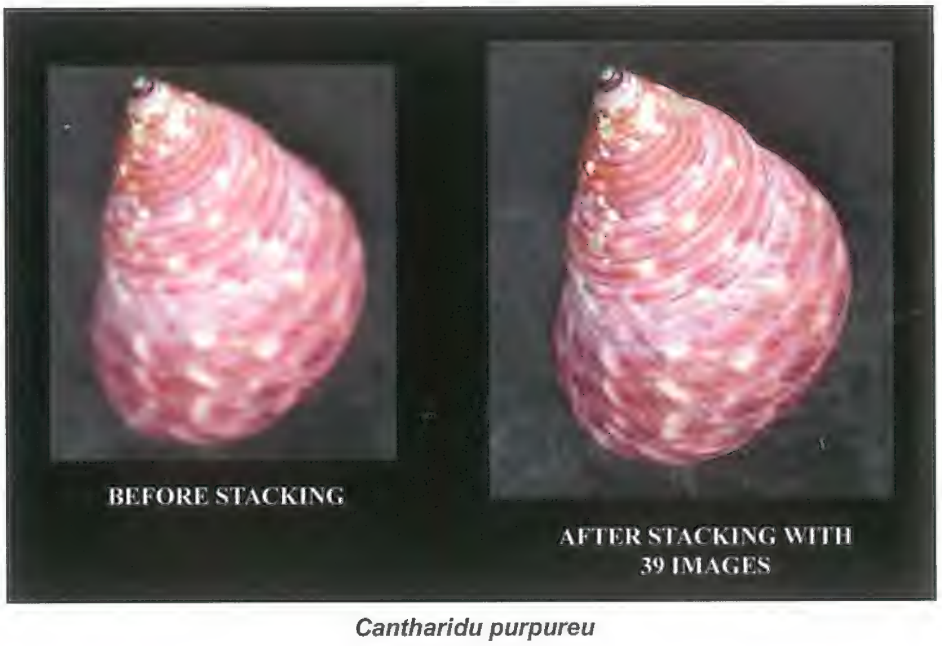
When you get to this magnification, the depth of field gets very shallow, with part of a shell in focus and the rest not. The solution to this is to take several shots at different distances and use a computer programme to pick the sharp photos, stitch them together and show the whole shell in focus. Use Photoshop if you have the money, or the cheaper option, Zerene Stacker for about $250. This has the benefit of free upgrades (refer photo below).

How do we keep the camera still? You can spend a lot of money on a jig – or you can set up your own by purchasing an old bellows from the internet. Mine cost about $40 and, with a bit of number eight wire technology, a serviceable kit was produced. Keeping the camera in one place and moving the bellows up and down will give a good result.

For the more adventuresome, the next step is a microscope with a camera attachment – but that's another story.

Happy snapping!

Set up



Cantharidu purpureu

Exploring the Taputeranga Marine Reserve with my camera

Margaret Elliot

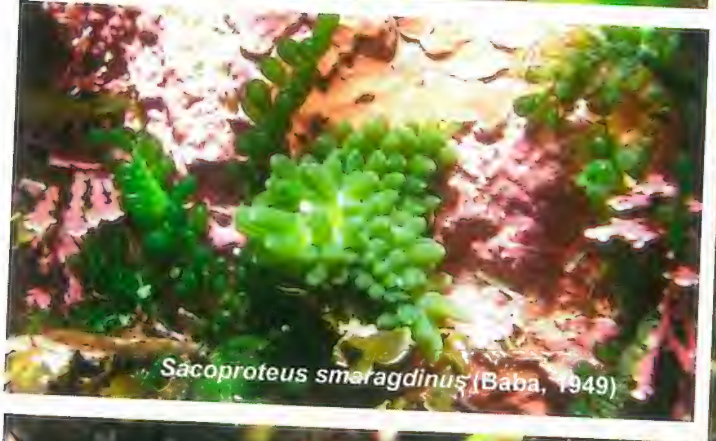
For the last 5 years or so, I have snorkelled various locations in the Taputeranga marine reserve, observing the creatures that live there and the seaweed forest surrounding them. I have chosen photos that feature a variety of molluscs I have encountered there including octopus, nudibranchs, and some favourite gastropod species. I like to photograph these in their environmental surroundings rather than close foci views. Every time I visit the ocean, I always seem to find something interesting, a species I haven't seen before or a new behaviour or interaction.

I have included pictures of the underwater landscape to show the exciting transition that occurs when you put on the mask and put your head under. Since the reserve began it has been great to observe the return of species that had been extensively hunted and gathered. I use a Canon Powershot G 12 with an underwater housing.

Sites on the Wellington south coast where the creatures were photographed include the Island Bay snorkel trail, Princess Bay, Owhiro Bay near the wreck of the Yung Pen, and Waitaha Cove.

Taputeranga – an underwater garden

Ceratosoma amoenum (Cheeseman, 1886) – clown nudibranch



Sacoproteus smaragdinus (Baba, 1949)

Atagema carinata (Quoy & Gaimard, 1832)

Aphelodoris luctuosa (Cheeseman, 1882)

Recent Relevant Publications 2021/2022

Pete Cresswell

Brook, Fred J & Hayward, Bruce W. Taxonomy and taphonomy of Pliocene bulimoid land snails from Mangere, northern New Zealand, with descriptions of a new genus and two new species (Gastropoda: Bothriembryontidae: Placostylinae). *New Zealand Journal of Geology and Geophysics, DOI: 10.1080/00288306.2022.2072904.*

Marshall, Bruce A & Houart, Roland. New Species and genera of Muricidae (Mollusca: Gastropoda) from New Zealand. *Novapex 23 (1) 1.26. 10 March 2022.*

Nineteen new species of Muricidae are described from the New Zealand region, with some name changes at generic level. While most of the new species are from deep water, some are found living intertidally and dead in beach drift.

Marshall, Bruce A. & Marrow, Maxwell P. The Living *Austromitra* species of New Zealand (Gastropa, Neogastropoda: Costellariidae). *Novapex 22(3) 51-73 10 Oct 2021.*

Abstract: "Living New Zealand *Austromitra* species are revised. Twenty-five species are recognised, of which 18 are described as new."

Walton, K., Scarsbrook, L., Mitchell, K. J., Verry, A. J. F., Marshall, B. A., Rawlence, N. J., & Spencer, H. G. (2022). Application of palaeogenetic techniques to historic mollusc shells reveals phylogeographic structure in a New Zealand abalone. Molecular Ecology Resources, 00, 1–13. https://doi.org/10.1111/1755- 0998.13696.

In which the generation of DNA sequence data from mollusc shells using techniques, applied to Haliotis virginea Gmelin, 1791, where morphological variation led to the recognition of several forms and subspecies, using a combination of paleogenetic techniques.

How it all began...and how it all ended

Bev Elliott

I was born in Christchurch in 1941. We lived at St Andrews Hill, very close to the coast. I can imagine that Mum may have taken her wee girl for walks on the beach, and that I may have picked up a few shells there, but I don't have any memories of that.

I was about four when we moved to a clifftop home above Karaka Bay, Glendowie, Auckland. I remember collecting lots of big double sunset shells, [*Gari stangeri,(*Gray, 1843)] from the reef at the entrance of Karaka Bay. I enjoyed Rosa Tyson's article and checklist from the area, in *Poirieria* Vol. 40, April 2004 (which didn't include *G. stangeri*!). I don't recall ever going further than that reef on my lone childhood wanderings.

My mum's parents lived on Rangitoto Island, so Dad acquired "Skippy", an overgrown dinghy with a motor, and an open cabin at the front. She was adequate to get to Browns Island and Rangitoto in fine weather. I remember collecting shells at Rangitoto, but can't recall what any of them were, apart from lots of Auckland oysters, *Saccostrea glomerata* (Gould, 1850), on the rocks.

My interest at Rangitoto was more botanical, but I knew nothing about plant names either. Even in my ignorance, I somehow realised that what I called "Yellow Dot", was something special. It was common on Rangitoto in the 1940's, but I have only ever seen it at one other place: Waimangu near Rotorua, an active thermal area, where I was told the name *Psilotum nudum* (L.) P.Beauv., a fern ally

Dad bought the 26ft launch "Lyndon", with enclosed cabins and three bunks, and we were able to go further afield and stay overnight. We visited every island in the Hauraki Gulf, from Ponui in the south to Kawau in the north, and I did have a wee 'museum' at home, of things I'd collected, but I can't even remember what any of them were. The only shells I've got from that period are two *Maurea pellucida* (Valenciennes, 1846) and three large yellow Chlamys valves.

I was eleven when Dad took "Lyndon" on her longest voyage to Great Barrier Island, where we lived for 5 years. And there, at last I began to take a bit more interest in shells and plants and learn their names and remember where I found them.

And where is all this ending? When we moved to Kaikoura in 1976, I discovered a sheller's paradise and lost no time in setting out to make the most of it. How many species can I find here? Three hundred!

14th Nov 2016 and the 7.8 earthquake.

I'd often wondered what effect a disaster, particularly a tsunami, would have on shells. This was my chance to find out – to start over again with a post-quake shell collection; see what I could find and what I couldn't find, and make lots of lists and first-hand observations, and write it up for the Wellington Shell Club. That lasted about a month with about 150 species, when suddenly there was a total ban on all sea life, both creatures and seaweed. That lasted about 2 weeks before the ban on fish and crayfish was lifted, but the ban on shellfish (everything else) remained. It seemed to be up to the individual Fisheries Inspectors to interpret what was meant by "shellfish". The fact is, they haven't a clue what a ''shellfish'' is, and any effort to talk it over with them or try to interpret their literature, or what's written in the *Kaikoura Star* just caused more confusion. Every time the shellfish ban runs out, it is extended a few more months or years. Last summer, 6 years after the earthquake, they lifted the paua ban for a few weeks. The public went crazy. I heard stories of up to 70 cars at some of the parking areas along the coast, and people taking huge amounts of paua. And where are we today? Kaikoura Peninsula and about 1 kilometre south, are *Taiapure*. The only shellfish that may be generally collected are kina. Which aren't even shellfish. However, in spite of the restrictions, I have seen, and listed, over 150 molluscan species since the earthquake.

As far as I know I'm the only conchologist on the entire east coast of Marlborough, therefore the only person whose hobby is upset by all this. Never mind, I've had a mighty lot of pleasure and enjoyment from my wonderful hobby for over 70 years.

And my greatest shell moment? I've often been asked, "What's your favourite shell?". The ugliest, silliest looking one of the whole lot: *Schizglossa major* Powell, 1938. 46 mm. Just a battered old sub-fossil, but oh so RARE! And I found it myself, in a limestone crevice at Pukemiro (Hamilton District), just as I was about to give up 'cos I didn't think I had the slightest chance of finding one. I'll never forget that magic moment.

***Schizoglossa major* (Powell, 1938). This is the specimen that brought so much joy!**

(photo credit: Andrew Spurgeon)

Travels of an erstwhile editor...

Pat Lakeman

Freed from the rigors of editing *Cookia*, I took a holiday in England during May-June 2022. Not a shell collecting trip, but a few crossed my path nevertheless…

If you are ever short of building materials for your next project, think of putting your old shells to good use. Not as grandiose as the Margate Shell Grotto that featured in *Cookia* Vol.28, 2016, but charming nevertheless, were these decorative panels on the café at Wiveton Hall, Holt, Norfolk.

Wiveton Hall, Cafe Holt, Norfolk

Norfolk is an interesting place in geological terms. At the small museum in the seaside town of Cromer, staff will tell you that highlights include the oldest human footprints found outside Africa, dated at between 850,000 and 950,000 years old. (Discovered in 2013 on the storm-lashed beach at Happisburgh, one of the fastest-eroding stretches of the British coast and, within a fortnight, the sea tides that had exposed the prints destroyed them.) The museum has a small but excellent geological display including large fossil bones from the West Runton mammoth (larger than its woolly mammoth relative) and, of course some fossil shells. To my untrained eye they looked familiar! Only items 11 and 12 in my photo were named in the display: *Pecten maximus* (Linnaeus, 1758), an extant shell and *Galeodea bicatenata* (J. Sowerby, 1817).

Cromer museum

Elsewhere, old shells are considered antiques, since this decorated box was spotted in a cabinet in an antiques shop in York. Yes, £18 or about NZ$36. I didn't buy it.

Red House Antiques in York

Old shells that are not fossils are sometimes historic rather than antique – prized more highly but given less protection from their environment. At the Chelsea Physic Garden (established 1673) in London, both valves of a very large *Tridacna* sp. sit in the centre of a lily pond. The garden tour I went on explained that the shell was contributed by Sir Joseph Banks after his 1768-1771 voyage with Captain James Cook (a journey that included the circumnavigation of New Zealand). Banks' journal refers to what he called "a large kind of Cockles (*Chama Gigas*)" being found on a reef near the coast of far north Queenstown, Australia, in July 1770.

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Top and above: Chelsea Physic Garden

Sources:

https://www.theguardian.com/science/2014/feb/07/oldest-human-footprints-happisburgh-norfolk

https://nzetc.victoria.ac.nz/tm/scholarly/tei-Bea02Bank-t1-body-d3-d4.html#fn2-87

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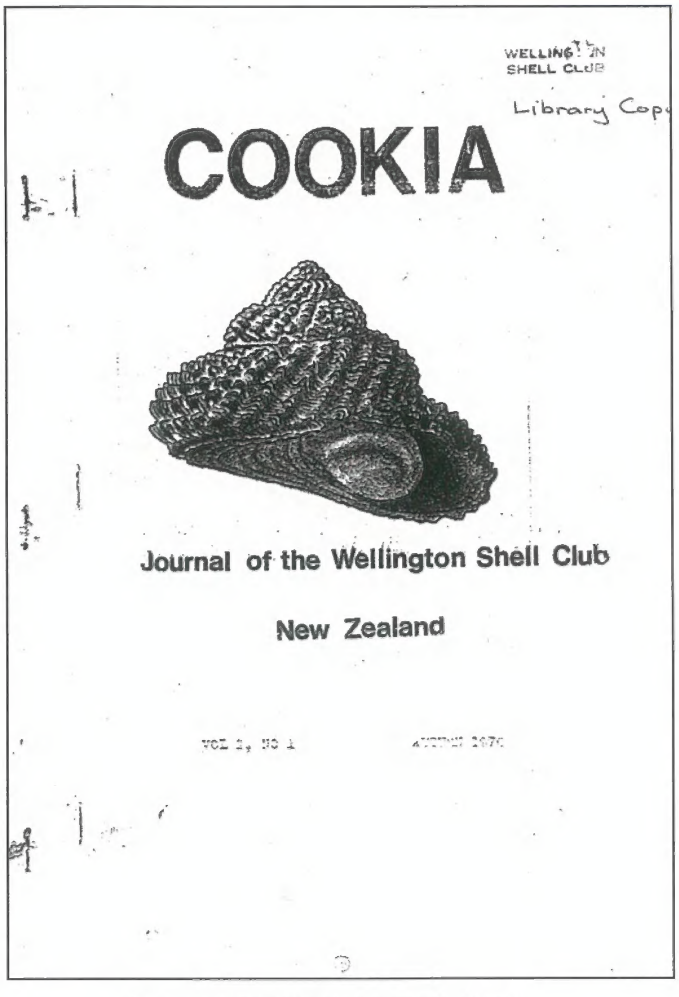
About *Cookia*



Cover of *Cookia* Vol 1, N° 1 1976

Cookia has been the annual journal of the Wellington Shell Club since 1976. Prior, the Wellington Shell Club published a Circular (1956-1965) and then a Bulletin (1967 -1975) as well as occasional Study Notes on families of molluscs. For information on earlier publications see the website. Contact any committee member to request back copies or copies of articles (charges may apply).

The editor and digital officer strive to attain a high quality of publication and careful fact-checking. The scope of articles is intended to reflect the differing specialties, levels of interest and experience within the club: we hope all members will be able to contribute should they wish. We welcome both scientific and non-scientific articles, opinion pieces, photos, drawings and poems, and articles not directly related to shells or shell collecting so long as they have some relevance.

Contributions are welcomed. Editorial policies and formatting suggestions for anyone considering submitting articles for future editions are available on the website, or consult the editor or digital officer. Photos or drawings provided should be of a high resolution, and supplied as individual files (i.e. not embedded into text). Unless of an *in situ* individual, an assortment of specimens in one shot or an artful context, it is preferred that specimens are photographed at 90° to the height/length axis of the shell, with apertural views of gastropod species preferred. Multiple views, angles or images of the same specimen are appreciated.

Maurea osbornei **(Powell, 1926) 18-21 metres, on Anchorina sponge, Tutukaka coast, Northland, May 1994. 25 - 30mm tall.**

Back cover: Cook's Turban Shell, *Cookia sulcata* (Lightfoot, 1786), from An Encyclopaedia of New Zealand, edited by A. H. McLintock, originally published in 1966. Te Ara - the Encyclopedia of New Zealand http://www.TeAra.govt.nz/en/1966/27317/cooks-turban-shell-cookia-sulcata